

CLAIMS

What is claimed is:

1. An apparatus for securing a first electrical connector mounted to an electronic module to a second electrical connector supported by a support structure, such that the first and second electrical connectors mate in an electrically conductive manner, comprising:

a latch having a first end configured to engage the support structure and a lever portion configured to exert a force on the electronic module when in a first position to thereby allow the first electrical connector and the second electrical connector to be urged together;

a compliant member configured to bias the lever portion away from the first position; and

a catch configured to secure the latch in the first position.

2. The apparatus of claim 1, and wherein the latch is mounted to the electronic module at a pivot point, and wherein the compliant member comprises a spring disposed between the lever portion of the latch and the electronic module.

3. The apparatus of claim 1, and wherein the latch is mounted to the support structure at a hinge, and wherein the compliant member comprises a spring disposed between the latch and the electronic module.

4. The apparatus of claim 1, and wherein the latch is mounted to the electronic module at a pivot point, and wherein the compliant member comprises a spring disposed between the latch first end and the structure.

5. The apparatus of claim 1, and wherein the latch is mounted to the chassis at a hinge, and wherein the compliant member comprises a spring member having a first end which engages the structure and a second end which engages the lever portion of the latch.

6. The apparatus of claim 1, and wherein the latch is mounted to the electronic module at a pivot point, and wherein the compliant member comprises a segment of the lever portion of the latch.

1 7. The apparatus of claim 6, and wherein the segment of the lever portion of
2 the latch is fabricated from a resilient material configured to orient the lever portion in a
3 normal position when the lever portion of the latch is unstressed, and when the lever
4 portion is moved from the normal position to the first position, the segment of the lever
5 portion is stressed to bias the lever portion away from the first position towards the
6 normal position.

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8 8. The apparatus of claim 7, and wherein the segment of the lever portion of
9 the latch is provided with kerfs to allow the segment of the lever to flex between the
10 normal position and the first position.

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12 9. The apparatus of claim 7, and wherein the segment of the lever portion of
13 the latch is configured to exert a predetermined force in response to a preselected
14 displacement of the segment from the normal position to the first position.

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16 10. The apparatus of claim 1, and wherein the latch further comprises a
17 mounting slot disposed between the first end of the latch and the lever portion of the
18 latch, and wherein the latch is pivotally mounted to the electronic module by a pivot pin
19 which is disposed within the mounting slot, and wherein the compliant member
20 comprises a spring disposed between the pivot pin and the lever portion of the latch.

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22 11. The apparatus of claim 1, and wherein the latch is mounted to the
23 electronic module at a pivot point, and wherein the latch further comprises a locking
24 handle pivotally mounted to the latch by a handle hinge, the locking handle extending
25 away from the handle hinge in a general direction towards the lever portion of the latch,
26 and wherein the compliant member comprises a spring disposed between the locking
27 handle and the lever portion of the latch, and wherein the catch is configured to secure
28 the locking handle in a direction towards the lever portion of the latch.

1 12. A method for securing an electronic module into a first electrical connector
2 supported by a support structure, the electronic module having a second electrical
3 connector configured to mate in an electrically conductive manner with the first electrical
4 connector, comprising:

5 applying a first force to the electronic module to urge the electronic module
6 towards the support structure from a first position to a second position and thereby
7 cause the first electrical connector to mate in an electrically conductive manner with the
8 second electrical connector; and

9 applying a second force to the electronic module to maintain the electronic
10 module in the second position, and wherein the second force is selected to be not
11 greater than a predetermined force.

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13 13. The method of claim 12, and wherein the second force is selected to be
14 less than the first force.

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16 14. The method of claim 12, and wherein the second force is selected to be a
17 force which will not cause damage to the first connector, the second connector, or the
18 support structure.

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20 15. The method of claim 12, and further comprising:
21 providing a resistive member capable of exerting a third force;
22 emplacing the resistive member between the support structure and the electronic
23 module, such that when the module is urged towards the support structure, the resistive
24 member exerts the third force on the electronic module; and
25 wherein the third force is selected such that the static balance of forces between
26 the third force and the second force result in a force which will not cause damage to the
27 first connector, the second connector, or the support structure.

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29 16. The method of claim 12, and further comprising:
30 providing a compliant member configured to exert the second force to the
31 electronic module when the compliant member is reconfigured from a normal position to
32 a biased position;

33 providing a catch configured to secure the compliant member in the second
34 position; and

35 securing the compliant member in the second position using the catch.

1 17. An apparatus for securing a first electrical connector mounted to an
2 electronic module to a second electrical connector supported by a support structure,
3 such that the first and second electrical connectors mate in an electrically conductive
4 manner, comprising:

5 a compliant member configured to be deformed from a first normal position to a
6 second stressed position, the compliant member having a first portion configured to
7 exert a force on the support structure, and a second portion configured to exert a force
8 on the electronic module when the compliant member is in the stressed position.
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10 18. The apparatus of claim 17, and further comprising a catch configured to
11 secure the compliant member in the stressed position.
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13 19. The apparatus of claim 17, and wherein the compliant member is a spring.
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15 20. The apparatus of claim 17, and wherein the compliant member is a flexible
16 portion of a handle of a latch, the latch having a first end configured to engage the
17 support structure, the latch being pivotally mounted to the electronic module at a point
18 between the first end of the latch and the latch handle.
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20 21. An apparatus for securing a first electrical connector supported on an
21 electronic module to a second electrical connector, comprising a compliant member
22 configured to apply a sustained connector mating force to the electronic module.
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24 22. The apparatus of claim 21, and wherein the compliant member is
25 configured such that the sustained connector mating force is a force which will not cause
26 damage to the first electrical connector or the second electrical connector.
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28 23. The apparatus of claim 21, and further comprising a securing member
29 configured to urge the first electrical connector and the second electrical connector
30 together in an electrically mated manner.
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